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Telephone : COLINDALE 6041 & 4081.
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CENTRAL PUBLIC HEALTH LABORATORY,
COLINDALE AVENUE,
LONDON, N.W.9.

24th, January 1952

Dear Professor Lederberg,

I have been meaning to reply to your letter for some time and must apologise for the delay. The point that you raised about how I set up the experiments for producing *Salmonellas* suitable for crossing experiments is a crucial one. Like yourself I had considerable difficulty in finding a suitable substance to act as a complement to Streptomycin resistance and after a lot of trial I finally settled on Azide. This is far from being satisfactory but I now believe that if great care is taken to keep standard conditions throughout the experiment then consistent results can be obtained. The trouble seems to be that Azide is very reactive with agar but reacts to a different extent with each batch. A further complication arises if there are any variations in temperature at which the Azide is added to the agar. What I now do is to set aside a batch of agar on which I do a pilot experiment to determine the best concentrations for incubation. I then set up my crossing experiment using these concentrations and the same batch of agar. The sort of results I get, plainly indicate that the crosses are more resistant, but I do not like the way that the degree of resistance varies from experiment to experiment and before publishing I should like to get this sufficiently well worked out for other people to repeat my results. I have tried to use phages as a complement for streptomycin but have not obtained better results that way so far.

I am glad to hear that the K - 12 antigen~~s~~ arrived safely, I was afraid that they might get frozen en route at this time of year, which precipitates the preservative and lowers the potency.

Yours sincerely,

C.C. Spicer

Professor Lederberg,
Department of Genetics,
University of Wisconsin,
Madison 6, Wisconsin.